## APPENDIX B

## Environmental Field Trip Report

# Fine Gold Reservoir

# ENVIRONMENTAL FIELD TRIP REPORT. FINE GOLD RESERVOIR

## INTRODUCTION

A team of environmental specialists completed an initial field trip to the Fine Gold Reservoir site on May 29, 2002. Field visitation was the first task in the environmental study of several potential surface storage options identified for initial review during the Upper San Joaquin River Basin Storage Investigation. For initial consideration, the environmental review focused mainly on construction and potential upstream impacts associated with surface storage sites. The site visit provided an opportunity to conduct preliminary reconnaissance of existing resources at the site for the following resource areas: terrestrial biology; aquatic biology and water quality; recreation; cultural resources; and land use.

This appendix includes a brief overview of the resource specialists' observations, trip logs prepared by team members, photographs taken during the field trip, and maps used to identify and review existing resources.

Remote sites were viewed by airplane and by boat. Observations for these areas are concomitant with this viewing limitation.

## SUMMARY OF FIELD OBSERVATIONS

This storage option would involve constructing a new dam at the mouth of Fine Gold Creek, where it enters Millerton Lake. Fine Gold Creek traverses private property, which is characterized by moderate to steeply sloping hillsides comprised of open grassland and oak woodlands. Private residences are scattered throughout the area and are accessible by paved and gravel roads. Unpaved dirt roads provide access to more remote areas along Fine Gold Creek and the surrounding area.

**Botany**

This is a relatively large stream with large pools of slow moving water.

Riparian vegetation exists along shoreline of creek where it is not precluded by bedrock.

Adjacent hillside have Foothill Pine- Blue Oak woodland vegetation with abundant grass and forb, shrub understory.

Some areas have open grassland and savannah type habitat conditions. Cattle are abundant in area.

Substantial amounts of riparian and wetland vegetation could be affected.

Would cause the substantial loss of other habitats.

If vernal pools are present the possibility of special status species is moderate to high.

**Wildlife**

This stream may support sensitive wildlife species such as Western pond turtle, foothill-yellow legged and red-legged frog. This area may also be used as deer habitat.

**Aquatic Biology/Water Quality**

The Fine Gold Arm of Millerton Lake is narrow and moderately steep-sided.

Riparian vegetation is well developed, especially in the upstream end of the reservoir arm.

Upstream of the reservoir, Fine Gold Creek runs through a gorge filled with very large boulders that shelter the stream.

Proposed diversions to the New Fine Gold Reservoir from the San Joaquin River and/or Millerton Lake could impact flows in the San Joaquin River and water levels in Millerton Lake and adversely affect water quality conditions and fisheries resources, including American shad and hardhead.

The shad population of Millerton Lake is the only known American shad population that is landlocked and hardhead is a California State Species of Special Concern.

Construction of the reservoir would destroy some lotic habitat and create new lentic habitat and fisheries opportunities, primarily for exotic fish species.

Inundation of abandoned mines, if any are present, could result in water quality degradation.

**Recreation**

There are no developed recreation facilities in this area. However, dispersed uses such as fishing, hunting, and recreational mining probably occur in areas where paved and unpaved roads provide access.

Construction of this dam and reservoir is not expected to result in substantial impacts to recreation resources and/or opportunities in the Fine Gold Creek area.

Diversions from Millerton Lake and/or the San Joaquin River could impact recreation resources and opportunities, depending on the location of the intake and the affect of withdrawals on flows in the San Joaquin River and water levels in Millerton Lake.

**Cultural Resources**

A permanent stream (Fine Gold Creek), riparian woodland and Blue Oak woodland would have provided diverse natural resources in prehistoric times.

There is a high probability of prehistoric archaeological sites including BRM stations, hunting & fishing camps, seasonal village sites.

A historic “Glory hole” mining venture was observed in a granite outcrop with a quartz vein, on the west shore of Fine Gold Creek near Millerton Lake.

An associated foot trail has dry laid rock walls in some places, and this may have been a sluice for mining.

Other historic sites likely, associated with mining and other activities.

**Land Use**

This is a generally undeveloped natural resource area.

Private homes and roads may be in the area of inundation.

| Environmental Team Field Trip Log - Botany | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | Jeff Glazner/Barry Anderson/David Stevens | |
| **Date:** | June 3, 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot and dry |
| **Areas Covered (attach map with notations** | |
| **Attachments** | |
| **Photo Log** | Yes |
| **Photos** | Yes |
| **Topographic Map(s)** | Yes |

**Field Observations:**

**13. Existing Facilities:**

None existing.

**14. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

This is a relatively large stream with large pools of slow moving water. Riparian vegetation exists along shoreline of creek where it is not precluded by bedrock. Adjacent hillside have Foothill Pine- Blue Oak woodland with abundant grass and forb, shrub understory. Some areas have open grassland and savannah type habitat conditions. Cattle are abundant in area. Riparian vegetation occurs along the creek. Seeps and springs are likely. Flatter areas in valleys could have vernal pools.

**15. Need for additional (engineering/hydrological, or other) information on measures**

- Geology and soils maps
- Spillway elevation and limits of inundation
- Location of tunnel
- Location of any pipelines, pump locations, or storage facilities
- Location of realigned roads
- Location of work pads, access roads, and other construction areas

4. **Additional data needs (within each specific discipline)**

- CNDDB report
- CNPS report
- Ceres report
- 1993 biology report
- Field surveys for wetlands and special status species and habitats

| Environmental Team Field Trip Log - Wildlife | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | Dave Stevens, Stephanie Murphy | |
| **Date:** | June 5, 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot and dry |
| **Areas Covered (attach map with notations** | |
| **Attachments** | |
| **Photo Log** | |
| **Photos** | |
| **Topographic Map(s)** | |

**Field Observations:**

**16. Existing Facilities:**

None

**17. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

This is a relatively large stream with large pools of slow moving water. Riparian vegetation exists along shoreline of creek where it is not precluded by bedrock. Adjacent hillside have Foothill Pine- Blue Oak woodland with abundant grass and forb, shrub understory. Some areas have open grassland and savannah type habitat conditions. Cattle are abundant in area. This stream may support sensitive wildlife species such as Western pond turtle, foothill-yellow legged and red-legged frog. This area could also be utilized as deer habitat.

**18. Need for additional (engineering/hydrological, or other) information on measures**

- Hydrologic models, dam, inundation zones
- Potential project features in addition to dam, size and location, etc.

**19. Additional data needs (within each specific discipline)**

a. Need to coordinate with resource agency biologists and agency files on known distribution of sensitive species for this area.
b. Further research is necessary to determine extent of possible impact to sensitive wildlife species with this alternative.

# Environmental Team Field Trip Log - Fish and Water Quality

| | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | Philip Unger | |
| **Date:** | June 10, 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot and dry |
| **Areas Covered (attach map with notations** | Fine Gold Creek and Millerton Lake |
| **Attachments** | |
| **Photo Log** | No |
| **Photos** | No |
| **Topographic Map(s)** | Yes (see S1) |

**Field Observations:**

**20. Existing Facilities:**

Millerton Lake inundates the lower reach of Fine Gold Creek. Fine Gold Creek traverses lands characterized by moderate to steeply sloping hillsides comprised of open grassland and oak woodlands. Private residences are scattered throughout the area and are accessible by paved and gravel roads. Unpaved dirt roads provide access to more remote areas along Fine Gold Creek and the surrounding area.

**21. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

The Fine Gold Arm of Millerton Lake is narrow and moderately steep-sided. The extent of inundation varies with reservoir elevation. Reservoir elevation was high during our field visit. Riparian vegetation, especially in the upstream end of the reservoir arm, is well developed. Upstream of the reservoir, Fine Gold Creek runs through a gorge filled with very large boulders that hide most of the creek from view (see Photo ?).

**22. Need for additional (engineering/hydrological, or other) information on measures**

Need information on range of seasonal flow conditions in Fine Gold Creek.
Need information on the area that would be submerged by New Fine Gold Reservoir.
Need the following reservoir data for each of the alternative Fine Gold Dam elevations:

- Mean depth for each month, April – October.
- Mean surface area of shallow water habitat (less than 15 feet deep) in each month, April – October.

- Mean rate of water level fluctuation for each month, April – October.

This project may involve diverting water from the San Joaquin River and storing it in New Fine Gold Reservoir. If so, the following information would be needed:

- Where would the diversion on the San Joaquin River be located?
- Where would the conveyance structure be located?
- How much flow would be diverted from the San Joaquin and when?
- Would diversions from the San Joaquin affect the operation of other reservoirs (e.g. Millerton, Kerkhoff, Redinger, etc.)?
- Timing and magnitude of water level fluctuations at all affected reservoirs.

**23. Additional data needs (within each specific discipline)**

Need information on use by Millerton Lake fish species of Fine Gold Creek Arm of reservoir. Need information on summer water temperatures in Fine Gold Creek and list of fish species likely to be present in the creek. Also, any existing water quality information.

Also:

- Water temperature, dissolved oxygen profiles and any other existing water quality data from Millerton Lake, especially from sites in the Fine Gold Arm.
- Information on the location and types of active and abandoned mines in the inundation zone of the proposed reservoir.

| Environmental Team Field Trip Log - Recreation | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | Sandra Perry | |
| **Date:** | June 3, 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot and dry |
| **Areas Covered (attach map with notations** | Fine Gold Creek and Millerton Lake |
| **Attachments** | |
| **Photo Log** | No |
| **Photos** | No |
| **Topographic Map(s)** | Yes (see S1) |

**Field Observations:**

**24. Existing Facilities:**

This project would involve constructing a new dam at the mouth of Fine Gold Creek, where it enters Millerton Lake. Fine Gold Creek traverses private property, which is characterized by moderate to steeply sloping hillsides comprised of open grassland and oak woodlands. Private residences are scattered throughout the area and are accessible by paved and gravel roads. Unpaved dirt roads provide access to more remote areas along Fine Gold Creek and the surrounding area.

**25. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

There are no developed recreation facilities situated in the immediate project area. However, some recreation likely occurs in the area, particularly where unpaved roads provide access to undeveloped areas along Fine Gold Creek. Recreation activities may include angling, hiking, nature viewing, picnicking, camping, mountain biking, and OHV use. Some recreational mining such as gold dredging or panning may also occur.

**26. Need for additional (engineering/hydrological, or other) information on measures**

Need information on the area that would be submerged by New Fine Gold Reservoir. This project may involve pumping water from the San Joaquin River and storing it in New Fine Gold Reservoir. If so, the following information is necessary:

- Where would the diversion on the San Joaquin River be located?
- Where would the conveyance structure (e.g. flowline) be located?

- Would the flowline be above ground (canal) or underground (tunnel)
- How much flow would be diverted from the San Joaquin and when?
- Would diversions from the San Joaquin affect the operation of other reservoirs (e.g. Millerton, Kerkhoff, Redinger, etc.)
- Timing of water level fluctuations at affected reservoirs
- Timing and magnitude of diversions from the San Joaquin

**27. Additional data needs (within each specific discipline)**

Additional information regarding dispersed use in the inundation area is needed to fully assess the potential impacts to recreation. It is unlikely that any use data would be available but anecdotal information regarding activities and popular use areas may be available through the county planning department and local residents.
Additional information regarding the San Joaquin River and Millerton Lake may also be necessary, depending on whether the project would involve these areas. See S1 notes for necessary information.

| Environmental Team Field Trip Log – Cultural Resources | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | David White | |
| **Date:** | May 29, 30 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot & dry |
| **Areas Covered (attach map with notations)** | Fine Gold Creek drainage by aerial reconnaissance May 29. Lower Fine Gold Creek from Millerton Lake by boat, May 30. Brief pedestrian reconnaissance along west shore of Fine Gold Creek near Millerton Lake, May 30. Also see Trip Log S1. |
| **Attachments** | |
| **Photo Log** | Yes – MWH 0205 |
| **Photos** | Yes – nos. 12-14, 56-69 |
| **Topographic Map(s)** | Millerton Lake West quad |

**Field Observations:**

**28. Existing Facilities:**

Friant Dam impounds Millerton Lake downstream; Fine Gold would be new dam. Various jeep trails, foot trails within creek drainage that would be flooded.

**29. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

Cultural resources:
Prehistoric: Permanent stream (Fine Gold Creek), riparian woodland and Blue Oak woodland would have provided diverse resources. High probability of prehistoric archaeological sites including BRM stations, hunting & fishing camps, seasonal village sites.
Historic: "Glory hole" mining venture observed in granite outcrop with quartz vein, on west shore of Fine Gold Creek near Millerton Lake. Associated foot trail, dry laid rock walls; possible sluice for mining. Various sites likely, associated with mining and other activities.

**30. Need for additional (engineering/hydrological, or other) information on measures**

Need precisely mapped footprint of reservoir, with various potential dam levels; also need footprint of all associated project-related ground disturbance areas, to include but not be limited to project offices and maintenance buildings, construction set-up and lay-down areas, access roads, electric transmission lines, water conveyance structures, and all other project facilities.

**31. Additional data needs (within each specific discipline)**

Need archaeological records search with California Historic Resources Inventory System (CHRIS) information center. Clearinghouse: Southern San Joaquin Valley Info Center, CSU-Bakersfield.
Need consultation with the BuRec cultural resource specialist regarding sites that may not be recorded with the CHRIS information center.
Also need brief review of archaeological and ethnographic literature pertaining to the area. Minimal level of effort: (1) to identify types of archaeological remains expected, time periods represented; and (2) to identify Native American tribes historically occupying the area, along with published information on major named villages or other ethnographic sites.

| Environmental Team Field Trip Log – Land Use | | |
|---|---|---|
| **Trip Log Number:** | S4 | **Project No.:** 8004094 |
| **Dates:** | May 29, 2002 | |
| **Site Name:** | New Fine Gold Dam | |
| **Location:** | Fine Gold Creek at Millerton Lake | |
| **Prepared By:** | Irina Torrey | |
| **Date:** | June 12, 2002 | |

| | |
|---|---|
| **Weather Conditions:** | Hot and dry |
| **Areas Covered (attach map with notations** | Fine Gold Creek and Millerton Lake |
| **Attachments** | |
| **Photo Log** | Yes |
| **Photos** | Yes |
| **Topographic Map(s)** | No |

**Field Observations:**

**32. Existing Facilities:**

This project would involve constructing a new dam at the mouth of Fine Gold Creek, where it enters Millerton Lake. Fine Gold Creek traverses private property, which is characterized by moderate to steeply sloping hillsides comprised of open grassland and oak woodlands. Private residences are scattered throughout the area and are accessible by paved and gravel roads. Unpaved dirt roads provide access to more remote areas along Fine Gold Creek and the surrounding area.

**33. Existing Environmental Features as Appropriate to Discipline (hydrology; aquatic-water quality; terrestrial—plants; wildlife; recreation; cultural resources; land use; aesthetic)**

Private residences and roads may be located in the areas of inundation.

**34. Need for additional (engineering/hydrological, or other) information on measures**

- Need information on the area that would be submerged by New Fine Gold Reservoir.
- Need to determine if any homes and if so, how many homes would be within the inundation area

**35. Additional data needs (within each specific discipline)**

No additional information is needed.

Picture: P5290023 Fine Gold Creek drainage, May 29 2002, early afternoon

Picture: P5290024 Fine Gold Creek drainage, May 29 2002, early afternoon

Picture: P5290025  Fine Gold Creek drainage, May 29 2002, early afternoon

Millerton Lake looking up Fine Gold Creek 5/30/02

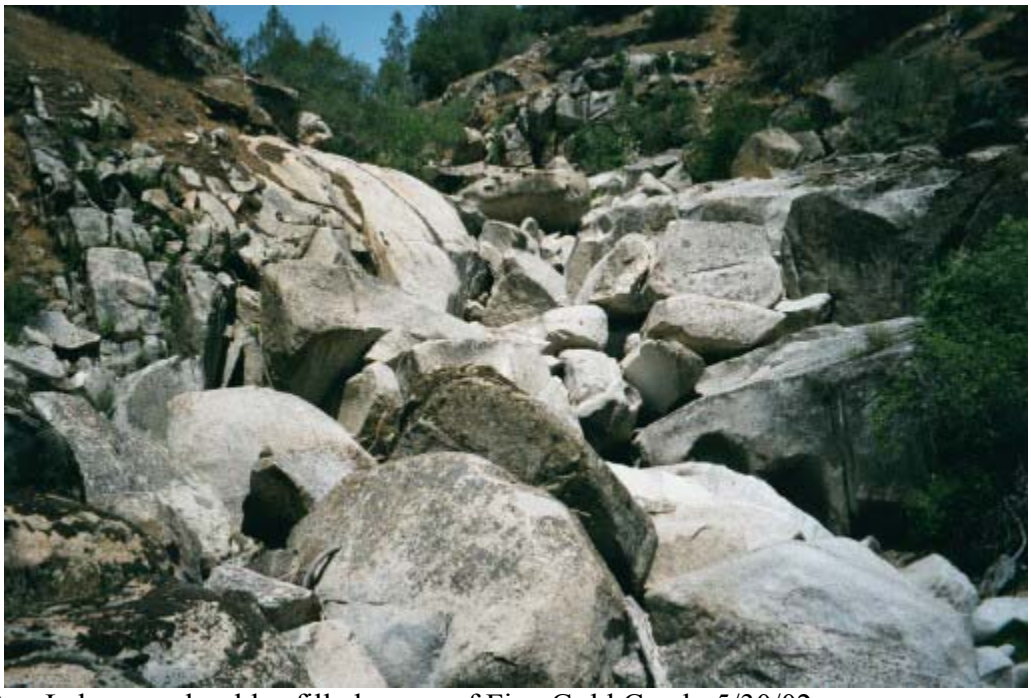
Millerton Lake, Fine Gold Creek Arm from across the lake, view N, 5/30/02

Millerton Lake, upper end of Fine Gold Creek Arm, 5/30/02

Millerton Lake, upper end of Fine Gold Creek Arm, 5/30/02

Millerton Lake, upper end of Fine Gold Creek Arm, 5/30/02

Millerton Lake, upper end of Fine Gold Creek Arm, 5/30/02



Millerton Lake area, boulder-filled gorge of Fine Gold Creek, 5/30/02

Millerton Lake area, Fine Gold Creek in boulder-filled gorge, 5/30/02

Millerton Lake area, Fine Gold Creek in boulder-filled gorge, 5/30/02

Millerton Lake area, Fine Gold Creek in boulder-filled gorge, 5/30/02

Millerton Lake, view SW from Fine Gold Creek area, 5/29/02

Millerton Lake, view SW from Fine Gold Creek area, 5/29/02